

Claims

1. A heat-activable pressure-sensitive adhesive comprising a polymer or copolymer formed from a monomer composition comprising at least 50% by weight of a compound of the formula $\text{CH}_2=\text{CH}(\text{R}_1)(\text{COOR}_2)$, wherein R_1 represents H or CH_3 and R_2 represents H or an alkyl chain having 1 to 30 carbon atoms, the polymer or copolymer having

a static glass transition temperature of -10°C to 120°C ;

a temperature activation range of 15°C or less; and

a molecular weight distribution M_w/M_n of 2.5 or less.

2. The heat-activable pressure-sensitive adhesive of claim 1, characterized in that the monomer composition comprises

(a1) 10% to 85% by weight of an acrylate or methacrylate ester of a nontertiary alcohol, whose homopolymer has a static glass transition temperature of 0°C or less;

(a2) 0 to 70% of an acrylate or methacrylate ester of an alcohol, whose homopolymer has a static glass transition temperature of at least 50°C ; and

(a3) 5% to 50% by weight of a monomer which carries a polar functional group.

3. The heat-activable pressure-sensitive adhesive of claim 2, characterized in that components (a1) and (a2) are selected independently of one another from a group which embraces acrylic and methacrylic esters each having alkyl groups of 4 to 9 carbon atoms.

4. The heat-activable pressure-sensitive adhesive of claim 2 or claim 3, characterized in that components (a1) and (a2) are selected independently of one another from a group which embraces methyl acrylate, methyl methacrylate, ethyl acrylate, n-butyl acrylate, n-butyl methacrylate, n-pentyl acrylate, n-hexyl acrylate, n-heptyl acrylate, n-octyl acrylate, n-octyl methacrylate, n-nonyl acrylate, lauryl acrylate, stearyl acrylate, behenyl acrylate, and the branched isomers thereof.

5. The heat-activable pressure-sensitive adhesive of any one of claims 2 to 4, characterized in that component (a2) is selected from a group which embraces monofunctional acrylates and methacrylates of bridged substituted or unsubstituted cycloalkyl alcohols having at least 6 carbon atoms.

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6. The heat-activable pressure-sensitive adhesive of any one of claims 2 to 5, characterized in that component (a2) is selected from a group which embraces cyclohexyl methacrylates, isobornyl acrylate, isobornyl methacrylates, and 3,5-dimethyladamantyl acrylate.

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7. The heat-activable pressure-sensitive adhesive of any one of claims 2 to 6, characterized in that the polar group of component (a3) is a carboxyl, sulfonic acid, phosphonic acid, hydroxyl, lactam, lactone, N-substituted amide, N-substituted amine, carbamate, epoxy, thiol, ether, alkoxy or cyano group.

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8. The heat-activable pressure-sensitive adhesive of any one of the preceding claims, characterized in that the polymer or copolymer has a static glass transition temperature of 0°C to 100°C.

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9. A process for preparing a heat-activable pressure-sensitive adhesive of any one of claims 1 to 8, characterized in that the monomer composition is polymerized by controlled free-radical addition polymerization.

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10. The use of a heat-activable pressure-sensitive adhesive of any one of claims 1 to 8 for an adhesive tape.
11. The use of claim 10, characterized in that the pressure-sensitive adhesive is coated onto one or both sides of a carrier.